



US010006927B2

(12) **United States Patent**
Sinz et al.

(10) **Patent No.:** **US 10,006,927 B2**
(45) **Date of Patent:** **Jun. 26, 2018**

(54) **METHOD OF OPERATING A LABORATORY AUTOMATION SYSTEM AND A LABORATORY AUTOMATION SYSTEM**

(58) **Field of Classification Search**

CPC ... G01N 2035/0401; G01N 2035/0406; G01N 2035/0462; G01N 2035/0477;

(Continued)

(71) Applicant: **Roche Diagnostics Operations, Inc.**,
Indianapolis, IN (US)

(56)

References Cited

U.S. PATENT DOCUMENTS

3,273,727 A 9/1966 Rogers et al.
3,653,485 A 4/1972 Donlon

(Continued)

(72) Inventors: **Achim Sinz**, Waiblingen (DE);
Namitha Mallikarjunaiah,
Kornwestheim (DE); **Christoph**
Pedain, Munich (DE)

(73) Assignee: **Roche Diagnostics Operations, Inc.**,
Indianapolis, IN (US)

FOREIGN PATENT DOCUMENTS

CN 201045617 Y 4/2008
CN 102109530 A 6/2011

(Continued)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 115 days.

Primary Examiner — Jennifer Wecker

(74) *Attorney, Agent, or Firm* — Roche Diagnostics
Operations, Inc.

(21) Appl. No.: **15/153,888**

(57)

ABSTRACT

(22) Filed: **May 13, 2016**

A method of operating a laboratory automation system is presented. The laboratory automation system comprises a plurality of laboratory stations and a plurality of sample container carriers. The sample container carriers carry one or more sample containers. The sample containers comprise samples to be analyzed by the laboratory stations. The system also comprises a transport plane. The transport plane supports the sample container carriers. The system also comprises a drive. The drive moves the sample container carriers on the transport plane. The method comprises, during an initialization of the laboratory automation system, logically reserving at least one buffer area on the transport plane and, after the initialization of the laboratory automation system, buffering in the at least one buffer area sample container carriers carrying sample containers comprising samples waiting for a result of an analysis. Depending on the result of the analysis, the samples are further processed.

(65) **Prior Publication Data**

US 2016/0341750 A1 Nov. 24, 2016

(30) **Foreign Application Priority Data**

May 22, 2015 (EP) 15168782

(51) **Int. Cl.**

G01N 35/00 (2006.01)

G01N 35/02 (2006.01)

(Continued)

(52) **U.S. Cl.**

CPC **G01N 35/0092** (2013.01); **G01N 35/026**
(2013.01); **G01N 35/04** (2013.01);

(Continued)

13 Claims, 6 Drawing Sheets

